

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 May 2005 (12.05.2005)

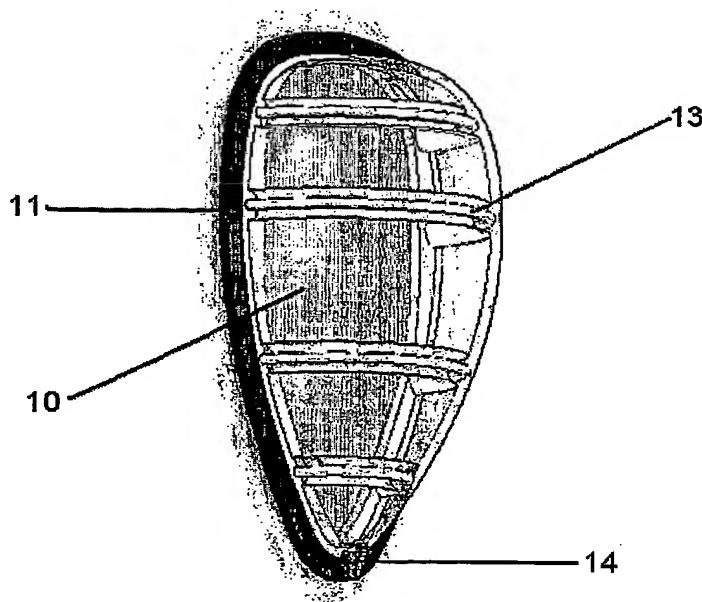
PCT

(10) International Publication Number
WO 2005/041745 A2

- (51) International Patent Classification⁷: **A61B** (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (21) International Application Number: PCT/IL2004/000986
- (22) International Filing Date: 28 October 2004 (28.10.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/515,903 31 October 2003 (31.10.2003) US (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): CorAssist Cardiovascular Ltd. [IL/IL]; Yokneam Industrial Park, P.O.Box 620, 20692 Yokneam (IL).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): DUBI, Shay [IL/IL]; Kehilat Saloniki St. 10/8, Tel-Aviv (IL).
- (74) Agents: Pyernik Rutman et al.; P.O.Box 10012, 84106 Beer-Sheva (IL).
- Published:
— *without international search report and to be republished upon receipt of that report*

[Continued on next page]

(54) Title: IN VIVO DEVICE FOR IMPROVING DIASTOLIC VENTRICULAR FUNCTION



(57) Abstract: The present invention provides an anatomically-compatible and physiologically-compatible in vivo device for improving diastolic function of either the left or right ventricle of the heart, comprising at least one air-impermeable sheet that is capable of being operatively connected to the external ventricular surface of the heart by means of one or more connecting elements, such that said at least one air-impermeable sheet is capable of creating a sub-atmospheric pressure within said closed empty space as a consequence of changes in the volume of said space during the course of the cardiac cycle, thereby exerting an outward and normally directed force on the external ventricular surface of the heart.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.